

Patent claims

1. A method for controlling the electrical battery power which is supplied to or drawn from the battery (5) of a motor vehicle and is coupled to the power supply system of the motor vehicle, the total electrical power ( $P_g$ ) consumed  
5 by the motor vehicle being generated by a generator (3) which is coupled to the internal combustion engine (2) of the motor vehicle,  
characterized in that  
a cost function is calculated which represents a measure of the additional fuel consumption based on the total electrical power generated by this  
10 additional consumption, and in that an optimal value for the battery power is determined such that the cost function is minimized.
2. The method as claimed in claim 1,  
15 characterized in that  
the battery charging losses ( $P_v$ ) are taken into account when determining the optimal value.
- 20 3. The method as claimed in claim 2,  
characterized in that  
the battery charging losses ( $P_v$ ) are determined by continually averaging the measured efficiency of the battery charging and battery discharging.
- 25 4. The method as claimed in claim 1,  
characterized in that  
the set battery power is greater than or less than the calculated optimal value in order to keep the state of charge of the battery (5) within a  
30 predetermined value range.

5. The method as claimed in claim 1,  
characterized in that

regenerative braking of the motor vehicle is carried out in which the braking energy is converted at least partially to electrical energy.

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6. The method as claimed in claim 5,  
characterized in that

the regenerative braking is carried out in a gear which maximizes the generated electrical energy.

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7. A controller for controlling the electrical battery power which is supplied to or drawn from the battery (5) of a motor vehicle which is coupled to the power supply system (4) of the motor vehicle, the total electrical power ( $P_g$ ) consumed by the motor vehicle being generated by a generator (3) which is coupled to the internal combustion engine (2) of the motor vehicle,  
characterized in that

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a cost function is calculated which represents a measure of the additional fuel consumption based on the total electrical power generated by this additional consumption, and in that an optimal value for the battery power is determined such that the cost function is minimized.

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